

**ATOMIC ENERGY EDUCATION SOCIETY
PERIODIC TEST – II (2018-19)**

CLASS: IX

DATE OF EXAM: 25-09-18

TIME: 3 HOURS

SUBJECT: SCIENCE

MARKS: 80

General Instruction: All questions are compulsory.

SECTION -- A

1. What do you mean by apiculture? 1
2. Name the physical quantity which changes continuously in any circular motion. 1
3. Calculate the amount of glucose required to prepare 250 g of 5% solution of glucose by mass. 2
4. Which cell organelle is called power house of the cell and why? 2
5. Why do the passengers fall forward when a fast moving bus stops suddenly? 2
6. What is composite fish culture? Write two advantages of it. 3
7. Write three functions of endoplasmic reticulum. 3
8. What are the three types of meristematic tissues on the basis of location? Answer with a diagram. 3
9. Give reasons: 3
 - a) Steam causes more severe burns
 - b) We can pass our hand easily through water but not through an almirah.
 - c) When water boils the temperature remains constant.
10. Name the fluid connective tissue in our body. Also mention the different components present in it. 3
11. Draw a velocity- time graph for an object in uniform motion. Show that the area under the velocity time-graph gives the displacement of the object in the given time interval. 3
12. State Newton's second law of motion and give related expression. Why does a cricket player lower his hands while catching the ball? 3
13. A ball is thrown vertically upwards with a velocity of 49 m/s. Calculate 3
 - (i) the maximum height to which it rises,
 - (ii) the total time it takes to return to the surface of the earth. ($g = 9.8\text{ms}^{-2}$)
14. Derive an expression for the acceleration due to gravity on the surface of the earth. How does weight of an object change as the object moves from equator to pole of the earth? 3

15. Name the following: 3
 (i) One cell organelle having its own DNA.
 (ii) Tissue which connects bones with bones.
 (iii) Suicidal bags of the cell.
 (iv) Structures present on the rough endoplasmic reticulum
 (v) Tissue which transports food in the plants.
 (vi) Substance which forms the matrix of bones.
16. What is evaporation? Explain four factors which affect the rate of evaporation. 5
17. a) Draw the flow chart for obtaining different gases from air . 2
 b) Write three differences between colloidal solution, solution and suspension. 3
18. Differentiate between the different types of muscles on the basis of location and function. Also draw the diagram of the three types of muscles. 5
19. a) Write three differences between prokaryotic and eukaryotic cells . 3
 b) What will happen if fresh grapes are kept in concentrated sugar solution?
 Also name the process. 2
20. (i) State the law of conservation of momentum and derive related expression. 3
 (ii) How much momentum will an object of mass 10 kg transfer to the floor, if it falls from the height of 5m. ($g = 10 \text{ m/s}^2$) 2
21. (i) State universal law of gravitation and derive the expression for force between two objects of mass m_1 and m_2 separated by a distance 'd'. 3
 (ii) Mass of an object is 20 kg. Find its weight on the surface of the earth and on the moon. (g of Earth = 10 ms^{-2}) 2
- SECTION - B**
22. Name the compound formed by heating iron filing with sulphur powder. 2
 What will happen if we add carbon tetra chloride to this compound?
23. Write two precautions which we should follow while making a temporary slide of onion peel. 2
24. What is the colour of copper sulphate crystals? What happens when it is heated? 2
25. Draw a nerve cell and label it. 2
26. Two forces, 20 Newton and 50 Newton are applied on an object in opposite directions. Find the net force on the object. Also, draw the diagram for it. 2
27. An object of mass 400g is at rest. Find the direction and magnitude of the frictional force exerted between the object and the surface of the path to make the object move in the direction of east. ($g = 9.8 \text{ ms}^{-2}$) 2
